ENVIRONMENTAL CHEMISTS

Date of Report: June 9, 1997 Date Received: June 5, 1997 Project: Metro, PO #M57412

Date Samples Extracted: June 5, 1997 Date Extracts Analyzed: June 6, 1997

RESULTS FROM THE ANALYSIS OF THE WATER SAMPLE FOR CHROMIUM, COPPER, NICKEL, AND ZINC USING METHOD 6010

Samples Processed Using Method 3005A Results Reported as mg/L (ppm)

Sample ID	Chromium	Copper	<u>Nickel</u>	Zinc
M57412	0.48	0.60	0.49	0.06
Method Blank	<0.05	<0.05	< 0.05	<0.05

ENVIRONMENTAL CHEMISTS

Date of Report: June 9, 1997 Date Received: June 5, 1997 Project: Metro, PO #M57412

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS BY INDUCTIVELY COUPLED PLASMA (ICP) (METHOD 6010)

Laboratory Code: 78591 (Duplicate)

	Reporting	Sample	Duplicat	Relativ e Percen	
Analyte:	Units	Result	Result		The state of the s
Chromium	mg/L (ppm)	1.7	1.7	0	0-20
Copper	mg/L (ppm)	1.5	1.6	6	0-20
Nickel	mg/L (ppm)	2.1	2.1	0	0-20
Zinc	mg/L (ppm)	< 0.05	< 0.05	nm	0-20

Laboratory Code: 78591 (Matrix Spike)

	Reporting	Spike	Sample	% l	Recovery	Acceptance	Relative Percent
Analyte:	Units	Level	Result	MS	MŠD	Criteria	Difference
Chromium	mg/L (ppm)	5	1.7	100	96	80-120	4
Copper	mg/L (ppm)	5	1.5	94	98	80-120	4
Nickel	mg/L (ppm)	10	2.1	98	95	80-120	3
Zinc	mg/L (ppm)	5	< 0.05	97	95	80-120	2

Laboratory Code: Spike Blank

						Relative
	Reporting	Spike	% R	ecovery	Acceptance	Percent
Analyte:	Units	Level	MS	MSD	Criteria	Difference
Chromium	mg/L (ppm)	5	102	105	80-120	3
Copper	mg/L (ppm)	5	102	100	80-120	2
Nickel	mg/L (ppm)	10	103	106	80-120	3
Zinc	mg/L (ppm)	5	103	103	80-120	0
	A KBAN GIBER					

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

Anti-Magn & BRUYA, INC.

Anti-Avenue West

Anti-Avenue West

Anti-Avenue West

Anti-Avenue West

Anti-Avenue West

KTAI 06.05.97 1:22

SAMPLE CHAIN OF CUSTODY

PROJECT LOCATION 3200 6th Are S. SAMPLE DISPOSAL INFORMATIO Dispose after 30 days Return Samples Call for Instructions Analyses Sample # Requested 74/2 4/37 1/370 4/20 1 18/02/4 Cr. Cu wi Zu PRINT NAME COMPANY Date Tim GRAW Thought ACU 6-5-57 1/0	NO. -238				<u>et name</u>			PURCHASE		<u> </u>
SAMPLE DISPOSAL INFORMATIO Dispose after 30 days Return Samples Call for Instructions Analyses Requested FAIZ 1130 A20 / T8624 C2 C0 Ni ZA TRUE PRINT NAME COMPANY Date Tin GENACO Thoughout ACW 6-5-57 1.00 Melany & Kidol Select C-5-97 1.00				MEI(68				PROJECT LO	CATIC	N
Dispose after 30 days Return Samples Call for Instructions Analyses Sample Sample Jars Sample Requested 7412 4557 11.30 1420 1 18624 C2 CU W 22 TORE PRINT NAME COMPANY Date Tim Genard Thompson ACW 6-5-57 1.00 We gave Kitch Factor 6-5-99 1.00	1 / 5	9				ت ا				
Sample Sample Jars Sample # Requested 74/2 4/57 11:30 A/20 / T8624 Cr Cv Ni ZA T8624 Cr	PARKS					And the second s	D R	ispose after eturn Sampl	30 day es	
PRINT NAME COMPANY Date Tin GENALD Thougson ACN 6-5-57 1:00	Srayle #									
GENALD Thougson ACW 6-5-97 1:00 el find Melaine Kital FASI 6-5-97 1:00					1		C		77.7	
GENALO Thompson ACW 6-5-97 1:00 Lind Nelanie Kital FABI 6-5-97 1:00					50 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -					
GENALO Thompson ACW 6-5-97 1:00 el Viol Melainie Kirol FABI 6-5-97 1:00					W					
GENALD Thougson ACW 6-5-97 1:00 Welding Kirol FABI 6-5-97 1:00	er tem er fernagen a vog fern er færste mindelste er fær uppflikken.		11.00			ige				
GENALD Thougson ACW 6-5-97 1:00 Welding Kirol FABI 6-5-97 1:00		N.A.			1 (1)	- N. W.		ir wally -	. 334	
GENALD Thougson ACW 6-5-97 1:00 Welding Kirol FABI 6-5-97 1:00										
GENALD Thougson ACW 6-5-97 1:00 Welling Kirol FAST 6-5-97 1:00							4. R14 V4 R4			1 50 7 3 3
GENALD Thougson ACW 6-5-97 1:00 Welling Kitol FOST 6-5-97 1:00										
GENALD Thougson ACW 6-5-97 1:00 Welling Kitol FOST 6-5-97 1:00	**************************************			986 1	and a	15,615,3245				
GENALD Thougson ACW 6-5-97 1:00 Welling Kitol FOST 6-5-97 1:00										Walter Co.
GENALD Thougson ACW 6-5-97 1:00 Welding Kirol FABI 6-5-97 1:00		•								
GENALD Thompson ACW 6-5-97 1:00 Welling Kirol FABI 6-5-97 1:00				3	100					P
	TURE		P	UNT NAME	100.5	COMPANY		Date	MARIE AL	Time
	unif live		GENAL	D Thompson	ا ر	ACW		6-5-	57	1:00
	d by:	Virol !	Melan	e Kirol	3. 1	FUST		6-5-	9>	1:00
	ished by:									1

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Beth Albertson, M.S. Charlene Jensen, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. Melanie Kirol, B.S. June 9, 1997 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

INVOICE # 97ACU0609-1 DUPLICATE COPY

Accounts Payable Alaskan Copper Works 628 South Hanford St. Seattle, WA 98134

RE: Project Metro, PO #M57412: Results of testing requested by Gerry Thompson, Project Manager for material submitted on June 5, 1997.

1 water sample analyzed for Chromium, Copper, Nickel, and Zinc using Method 6010 @ \$65 per sample \$ 65.00

Amount Due \$ 65.00

FEDERAL TAX ID *(b) (6)

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Beth Albertson, M.S. Charlene Jensen, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. Melanie Kirol, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

June 9, 1997

Gerry Thompson, Project Manager Alaskan Copper Works 628 South Hanford St. Seattle, WA 98134

Dear Mr. Thompson:

Included are the results from the testing of material submitted on June 5, 1997 from your Metro, PO #M57412 project.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Kurt Johnson

Chemist

keh

Enclosures ACU0609R.DOC